

NON-PUBLIC?: N  
ACCESSION #: 8806140477

LICENSEE EVENT REPORT (LER)

FACILITY NAME: Fermi 2 PAGE: 1 of 3

DOCKET NUMBER: 05000341

TITLE: Incorrect High Pressure Coolant Injection Surveillance Test  
Procedure Causes Reactor Scram  
EVENT DATE: 05/08/88 LER #: 88-020-00 REPORT DATE: 06/07/88

OPERATING MODE: 2 POWER LEVEL: 006

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR  
SECTION  
50.73(a)(2)(iv)

LICENSEE CONTACT FOR THIS LER:  
NAME: Joseph Pendergast, Licensing Engineer TELEPHONE #: 313-586-1682

SUPPLEMENTAL REPORT EXPECTED: No

ABSTRACT: A Technical Specification Surveillance Requirement Procedure 24.202.04 "HPCI System Automatic Actuation/Suction Valve Auto Transfer" was required to be performed as part of the normal required surveillance frequency. During the performance of the surveillance test, feedwater flow was diverted to the condensate storage tank. Operator actions taken to compensate for a low reactor water level alarm resulted in a reactor intermediate range monitor high flux reactor scram. During the reactor scram all plant systems functioned per design.

A technical review of the surveillance test determined that the surveillance procedure was intended to be performed in the cold shutdown or refueling conditions. The procedure did not contain the appropriate precautions to prohibit operations personnel from performing the surveillance test in other plant modes of operation. Procedure 24.202.04 was revised to define when the surveillance test will be performed.

(End of Abstract)

TEXT: PAGE: 2 of 3

Initial Plant Conditions:

Operational Condition: 2 (Startup Operation)

Reactor Power: 6 Percent

Reactor Pressure: 940 psig

Reactor Temperature: 532 degrees Fahrenheit

Description of the Event:

On May 8, 1988 Fermi 2 was at six percent of rated thermal power with the Intermediate Range Monitors (IRM) (RM) switches positioned at the upper ranges. A Technical Specification Surveillance Requirement Procedure 24.202.04 "HPCI System Automatic Actuation/Suction Valve Auto Transfer" attachment 3 was required to be performed as part of the normal required surveillance frequency. The scope of the surveillance was to verify that upon receipt of an actuation signal the High Pressure Coolant Injection (HPCI) (BJ) test return line isolates as designed.

As required by procedure, the HPCI pump discharge inboard isolation valve (ISV), E41-F006, was opened to test the interlock associated with the HPCI pump test line outboard isolation valve (ISV), E41-F008. The valve, E41-F008 is designed to close when E41-F006 is opened. Since the surveillance test did not require the HPCI pump (P) to be running, the HPCI System test return line provided a path of low resistance for feedwater (SJ) flow to the condensate storage tank (KA), during the time interval E41-F008 was closing. Reactor water level decreased and a valid Reactor Pressure Vessel (RPV) low level alarm was received.

Operations personnel closed the HPCI pump discharge inboard isolation valve, E41-F006, in response to the low level alarm. Feedwater flow was then restored to the RPV.

The operator actions taken to compensate for the low reactor water level however resulted in a rapid injection of colder feedwater into the RPV. On May 8, at 2230 hours, the Reactor Protection System (RPS) IRMs detected a high flux in the core. A reactor scram resulted from the high flux condition. During the reactor scram, all plant systems functioned per design. The scram signal was reset at 2232 hours.

#### Cause of the Event:

A technical review of the surveillance test determined that the surveillance procedure was intended to be performed in the Cold Shutdown or Refueling conditions. The procedure did not contain the appropriate precautions to prohibit operations personnel from performing the surveillance test in other plant modes of operation.

#### Analysis of the Event:

The increased flowrate of colder feedwater into the reactor coolant resulted in a high flux condition within the reactor core. Intermediate Range Detectors monitoring core flux detected the condition and initiated a Nuclear Monitoring System trip signal to the Reactor Protection System. The reactor scrammed and all safety system actuations and isolations functioned as designed. Had this event occurred during Operational Condition 1, all safety systems would have functioned as designed, as proven during this event.

#### Corrective Actions:

Procedure 24.202.04 was revised. The revision provides applicable precautions notifying operations personnel not to perform this attachment in any other plant condition than Cold Shutdown or Refueling.

The operations department issued required reading describing this event. The required reading stressed the importance of shift briefing prior to performing plant evolutions of this type.

#### Previous Similar Events:

Licensee Event Report (LER) 87-035 describes an event where a reactor scram occurred as a result of an IRM upscale trip. The IRM upscale trip was caused by reactor power level increases due to changes in feedwater flow. Operations personnel did not anticipate the magnitude of the changes in feedwater flow that would result from a reduction in reactor pressure while in the low power ranges.

LER 85-003 describes an upscale trip of the IRMs during a battery charger calibration. Improper communications between operators led the control room operators to believe the

battery charger was a spare. They subsequently ignored a low voltage alarm until the upscale trip of the IRMs occurred.

ATTACHMENT # 1 TO ANO # 8806140477 PAGE: 1 of 1

William S. Orser  
Vice President 10CFR50.73  
Nuclear Operations

Detroit Fermi 2 June 7, 1988 Nuclear  
Edison 6400 North Dixie Highway NRC-88-0133 Operations  
Newport, Michigan 48166  
(313) 586-5300

U. S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, D.C. 20555

Referenc: Fermi 2  
NRC Docket No. 50-341  
Facility Operating License No. NPF-43

Subject: Licensee Event Report (LER) No. 88-020-00

Please find enclosed LER No. 88-020-00, dated June 7, 1988, for a reportable event that occurred on May 8, 1988. A copy of this LER is also being sent to the Regional Administrator, USNRC Region III.

If you have any questions, please contact Patricia Anthony at (313) 586-1617.

Sincerely,

/s/

Enclosure: NRC Forms 366, 366A

cc: A. B. Davis  
J. R. Eckert  
R. C. Knop  
T. R. Quay  
W. G. Rogers

Wayne County Emergency  
Management Division

\*\*\* END OF DOCUMENT \*\*\*

---